sentence stands out. The submission of the Advisory Group, reflecting the negotiated agreements of designated representatives of the consumer electronics and cable industries, unequivocally recognizes the need for standards development concerning digital delivery of cable services. Though one sentence is key, the entire paragraph is worth quoting in full:

> The use of digital transmission should permit a high degree of security to be achieved. It is essential that a single standard be adopted for digital transmission and compression. If multiple standards are allowed to exist, it may not be possible to achieve a cost-effective, consumer-friendly environment.[35]

Whatever the Commission may do about the analog world of today, the advent of digital transmission creates the opportunity to avoid compatibility problems in the future. Each week, it seems, brings a new announcement concerning plans for deployment of digital technologies by one MSO or another.[36] It is imperative that the Commission

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35/ Comments of the Cable-Consumer Electronics Compatibility Advisory Group at 19.

36/ See, e.g., "Compression Kickstart," Cable World, at 1, 57 (Dec. 7, 1992)(TCI deal with General Instrument and AT&T "put compression on the fast track last week . . . . TCI is ready to invest $200 million in making the transition to digital technology next year and in 1994"); "Sammons Joins DigiCable Parade, Orders 70K Boxes," Multichannel News, at 20 (Mar. 8, 1993); "Newhouse Makes Commitment to 250K Digital Boxes," Multichannel News at 27 (Mar. 1, 1993). The

move swiftly to ensure that these plans include provision for compliance with the consumer-friendly objectives of Section 17. To delay means risking a replication of today's problems in the new environment, and foreclosing -- perhaps forever -- the prospect of relief for consumers from compatibility burdens resulting from variations in cable industry signal delivery and control practices.

In light of the foregoing (and the express agreement between EIA/CEG and NCTA that neither party would collaterally attack the contents of the Advisory Group submission), we are astonished by NCTA's statement that "digital transmission should not be a factor in this rulemaking," because "[a]ny rules created in this proceeding will likely be obsolete when digital transmission becomes a reality or could have the unintended effect of stifling its development."[37] CATA's position is to a similar effect: the Commission should defer action, but "we should all be positioned to act as soon as a standard emerges."[38] To the contrary, the Commission must not squander the opportunity to address issues of digital standardization now.

To wait until hundreds of different cable systems have deployed numerous incompatible digital technologies would not be constructive. At that point, hardware

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37/ Comments of NCTA at 39.

38/ Comments of CATA at 15.

implementations would be locked in. Multiple vendors would have sunk investments in different, incompatible technologies. Across the country, numerous distinct digital delivery systems would be causing new compatibility problems for hundreds of millions of receivers, including those deployed both before and after the conclusion of the present proceeding. It is inconceivable that the drafters of Section 17 intended that the Commission take such a laissez-faire approach to the next generation of television technologies.

To illustrate the unreasonableness of the cable industry's position (the one taken in their separate filings, not the one they agreed to in the joint filing), it may be helpful to consider the related issue of advanced television. Could it seriously be suggested that the thousands of broadcasters across this country should all pick their own preferred systems for broadcasting high definition television ("HDTV") and that each receiver manufacturer should build receivers to receive signals transmitted in any one of several different formats? Could anyone honestly explain how such an approach would serve the public interest? To the contrary, the Commission has unequivocally acknowledged the importance of selecting a

single transmission standard for terrestrial broadcasting of HDTV.[39]

There is one major difference between terrestrial broadcasting and cable: in the latter case, the service providers operate a "closed system that we control" where they can deploy whatever boxes they want, with whatever functionality they choose, on the customers' premises, without regard to effects on the compatibility of consumer-owned equipment.[40] But Congress has sought to end this situation by requiring the Commission to "assure compatibility" and by requiring that converter boxes be made "commercially available."[41] If the "closed system" is opened, and the Commission does nothing to ensure

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39/ Advanced Television Systems and Their Impact on the Existing Television Broadcast Service, 5 FCC Rcd. 5627 (1990)(subsequent history omitted).

40/ "Forging Cable's Technology Future," Broadcasting, at 35, 36 (May 4, 1992)(quoting senior vice president, engineering, of ATC).

41/ With regard to the latter requirement, we note the apparent assumption on the part of the cable industry that any customer-premises functionality needed to decompress digital signals will be provided by the cable company, on the cable side of the decoder hardware. See Comments of NCTA at 39. To the contrary, there is no reason why this functionality should be excluded from the competitive realm or prevented from being incorporated into consumer electronics products. Cf. Petitions Seeking Amendment of Part 68, 94 FCC 2d 5 (1983), reconsideration denied, CC 84-145 (Apr. 27, 1984)(rejecting telephone company efforts to exclude digital data sets from competitive supply).

standardization of digital transmission and compression technology, the certain result will be chaos.

We firmly believe that the Commission should begin immediately to establish procedures for standardization of digital transmission and compression. Further, to fully realize congressional objectives concerning compatibility with consumer electronics products and competitive supply of customer-premises devices, we believe a national renewable security system is also essential.[42]

The cable industry asserts that a national security standard would encourage pirates to concentrate their efforts on defeating the system,[43] but in so doing they overlook the value of using a renewable system.[44] Moreover, although the system to be used would be based on a national standard, the algorithms used to enable decoding could be localized.[45] As a consequence, a smart card sold

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42/ Accord Comments of Oregon Consumers League at 1.

43/ Comments of Continental Cablevision at 26.

44/ The feasibility of a renewable smart card system is already being demonstrated in Europe. The authorization and decoding circuitry is being incorporated into TVs and VCRs available from multiple vendors. EIA/CEG is confident that U.S. manufacturers and service providers are as capable as those in Europe of making this kind of system work.

45/ As cable industry executives are well aware, it is even

for use in New York would not necessarily work in Los Angeles or Newark. And, if any particular smart card were to be compromised, it could be replaced relatively quickly and inexpensively on a localized basis.[46] The vastly strengthened penalties that now apply to piracy, and the greater seriousness with which such matters are taken by law enforcement agencies, should also help to keep piracy in check.

The digital era is at hand. In terrestrial TV broadcasting, terrestrial radio broadcasting, voice and data telephony, cellular radio, and cable, in virtually every sector of the Commission's jurisdiction, digital techniques are fast replacing analog. As this transition accelerates in the cable environment, timely action on digital standards for cable is imperative to ensure that the compatibility and competition goals of Section 17 are achieved.

EIA/CEG is ready, willing, and able to initiate a standards-development project on this subject right now. We urge the cable industry to join us in addressing the important task of establishing a U.S. standard for digital transmission, compression, and encryption.

46/ In contrast to statements appearing in cable industry pleadings in this proceeding, the director of technology assessment for CableLabs has acknowledged that "Smart card is likely to become an essential technology for pay-per-view and other interactive services on cable over this decade." "Engineers Deal with Smart Cards," Multichannel News, at 24 (Feb. 1, 1993).

V. THE COMMISSION SHOULD NOT CONVERT ITS LIMITED RESPONSIBILITY TO DEFINE CRITERIA FOR USE OF THE TERM "CABLE-READY" INTO A COMPREHENSIVE AND BURDENSOME REGIME GOVERNING LABELING AND DESIGN OF CONSUMER ELECTRONICS PRODUCTS.

The statute requires the Commission to define criteria that must be met before manufacturers or retailers would be allowed to market a TV or VCR as "cable-ready" or "cable-compatible."[47] Many of the cable participants in this proceeding want the Commission to go much further. There are proposals to impose generalized labeling requirements applicable to all TVs and VCRs, whether or not they are marketed with the term cable-ready.[48] Even worse, there are proposals to regulate the design of consumer electronics products, forbidding products from having certain features unless they also have other characteristics.[49] Such proposals would stand the statute on its head.

47/ Communications Act § 624A(c)(2)(A).

48/ Comments of TCI at 12-13 (warning labels on shipping cartons and in owners' manuals); Comments of Time Warner at 76 (warning label on TV picture tube and VCR front).

49/ Decoder interfaces have already been discussed above. There are additional proposals, such as one that would require all new TVs and VCRs to contain a "modular tuner." Comments of TCI at 5; Comments of Continental at 20-21 (tuner cards could be swapped out like on a personal computer). These comments fail to recognize that a plug-in design would add cost and make it harder to meet shielding and other performance goals advocated by cable. They also overlook important safety considerations; TVs have much higher voltages than do PCs.

Neither the Cable Act in general nor Section 17 in particular was drafted because of legislative displeasure with the behavior of the consumer electronics industry; the cause of the concern, and the burden of correcting it, was placed elsewhere. Congress reasonably concluded that any confusion caused by TV and VCR manufacturers and retailers could be reduced, with minimal intrusion into the functioning of the robustly competitive consumer electronics marketplace, by having criteria established for use of the term "cable-ready."[50] The plain meaning of the language used by Congress is that, once the criteria are established by the Commission, a manufacturer must not label a set as "cable-ready," and a retailer must not market it as such, unless it meets the criteria. There is nothing in the legislative language or the legislative history which suggests that Congress meant something other than what it said.

Not a single party has cited any evidence that Congress meant to establish labeling requirements for sets which are not claimed to be cable-ready, much less that it intended that the Commission take the additional leap of

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50/ Certain cable filings suggest that retailers will plain

regulating receiver designs. The limited provision dealing with use of the term "cable-ready" cannot be transmogrified into sweeping authority to require that manufacturers provide certain features only as part of cable industry-approved packages and not a la carte, at the manufacturer's and the consumer's option.[51]

In this regard, it bears emphasis that the cable industry seems to be trying to shift the consumer education burden from the cable industry to the consumer electronics industry. Section 17 does not require manufacturers to label a product as "cable-unready" or to place any other disclaimers, warnings, or other negative language on consumer electronics products. It does require cable operators to notify their subscribers that "they may be unable to benefit from the special functions of their television receivers and video cassette recorders," including three specifically enumerated capabilities.[52]

NCTA seeks to duck this responsibility by emphasizing that "no cable system markets its services as 'TV or VCR compatible.'"[53] To the contrary, consumers can

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51/ See Comments of Time Warner at 73 (if receiver does not meet all criteria for use of term (Time Warner has ten such criteria), then it should be forbidden to tune any channels other than broadcast channels).

52/ Communications Act, § 624A(c)(2)(B)(i). Cable operators are also required to provide information regarding remote controls. See infra at 38.

53/ Comments of NCTA at 21 n.30.

reasonably expect that a service which is useless without a TV or VCR should indeed be expected to be "TV or VCR

Returning to the issue presented by the legislation, that is, the criteria governing use of the term "cable-ready," we recognize that cable organizations have identified a considerable number of criteria they think should be applied.[55] Rather than respond to each of these many proposals, we will defer further comment for now. If our joint inter-industry efforts can achieve nothing else

whether the term "converter" should be given a cramped, hypertechnical reading, as the cable industry proposes,[56] or a broader interpretation that effectuates the stated intent of the legislation. To put it another way, does the term "converter" merely refer to the basic set-top boxes that perform tuning functions, or does it also include other set-top boxes that also perform descrambling functions? EIA/CEG believes the latter answer is correct in each case.

The first step in the analysis is textual. Section 17 begins by referring to consumer electronics products having features which are "disabled or inhibited because of cable scrambling, encoding, or encryption technologies or devices, including converter boxes . . . ."[57] It is impossible to square that sentence with an interpretation of the term "converter boxes" that is limited to nondescrambling set-top devices.

Another provision in Section 17 instructs the Commission "to require cable operators offering channels whose reception requires a converter box" to provide certain information to their subscribers. Under the cable industry's interpretation, this provision would not apply to any operator which provided only descrambling devices, even though subscribers to that operator's services would, in the

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56/ See Comments of TCI at 25.

57/ Communications Act § 624A(a)(1).

words of this provision, "be unable to benefit from the special functions of their television receivers and video cassette recorders . . . ."[58]

A separate provision of the Act alludes to the use of an "addressable converter box" to access programming other than the basic service tier.[59] EIA/CEG is unaware of any plain frequency converters which are "addressable." This provides further evidence that the term "converter" as used in the legislation is broader than the cable industry now admits.[60]

If additional evidence were needed, Senator Leahy's statement at the time of introduction of the Cable Ready Equipment Act supplies it. He described one provision of his bill as allowing subscribers "the option of receiving their unscrambled channels by direct hookup to their television, eliminating the converter box as to all such stations."[61] The only possible interpretation of this

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58/ Communications Act § 624A(c)(2)(B).

59/ Communications Act § 623(b)(3)(A).

60/ Curiously, the cable industry now claims that the term "addressable converter" is a "misnomer." Comments of Time Warner, at 50 n.125, MM Docket No. 92-266 (Jan. 27, 1993). But that term is used without qualification or equivocation in the cable industry's own literature. NCTA, A Cable

language is that Senator Leahy used the term "converter" to include descrambling set-top boxes.

This use of the term was not limited to Senator Leahy nor was it confined to debate on the predecessor measure. As Senate debate began on the measure which in fact became law, then-Senator (and now-Vice President) Gore took the floor. "And to add insult to consumer injury," he argued after listing various other practices that other provisions of the Cable Act are intended to remedy, "cable operators would render the current generation of cable-ready televisions and VCRs obsolete by scrambling local signals and requiring consumers to rent a converter box to receive cable signals."[62]

The interpretation favored by EIA/CEG and grounded in principles of statutory construction also has the virtue of being consistent with consumer parlance. Consumers routinely refer to their "cable converters," whether they are "plain vanilla" converters, descramblers, or some combination of functionalities. Trade and general press usage is to the same effect.[63]

62/ Cong,. Rec. 102d Cong, 2d Sess. at S 423 (Jan. 27, 1992)(emphasis added).

63/ E.g., "Malone Calls Cable Engine of Multimedia," Broadcasting & Cable, at 14 (Apr. 5, 1993)(discussing planned purchase of "converter boxes containing high-powered computer operating systems and costing $300-350 each); "Cable Mysteries Solved," Consumer Reports at 581 (Sep. 1991)("when a signal is scrambled, it usually takes a

(Footnote 63 continued on next page)

Perhaps most telling, the cable industry itself often uses the term converter to mean all set-top boxes. Bills sent to cable subscribers in various cities and towns include a line-item for "converter," even where the devices perform descrambling as well as conversion functions.

Even NCTA has been known to use the term "converter" to mean "set-top devices." NCTA's "primer" on cable service describes several categories of capital expenses associated with cable systems, and in the discussion of "subscriber equipment" the only example mentioned is "addressable converters, which allow for two-way 'interactive communication between subscriber and operator; automatic number identification (ANI) services . . . and other technologies that simplify and enhance the concept of 'video-on-demand.'"[64] The discussion of revenues includes a reference to requiring consumers to place deposits to ensure return of "converter[s]."[65] Neither of these sentences mentions descramblers as a separate category of equipment, and neither of these uses of the term "converter" would make sense unless the term were used to encompass all set-top boxes.

(Footnote 63 continued from previous page)
converter box to unscramble it")(emphasis added to both

The importance of all this discussion is not to try to facilitate unauthorized consumer access to descrambling devices, but to establish the breadth of the congressional intention to induce competition in the supply of all customer-premises functionalities used in conjunction with cable service. To protect consumers against both the operational and economic burdens of the set-top devices currently used by cable operators, it is essential that the principle of competition apply to all of the functions performed by these devices.[66]

The resolution of this issue will determine the extent to which a growing array of features are incorporated in competitively supplied devices or in devices selected unilaterally -- and provided exclusively -- by the franchised monopoly provider of cable service. We have already mentioned NCTA's description of the use of converters for two-way communications, automatic number identification services, and other technologies that facilitate delivery of "video-on-demand." But the stakes are growing larger still, as additional services are developed and deployed. Electronic program guides, to take

one example, can be integrated into TV receivers or set-top boxes; if the cable company knows that it will not be allowed to have a monopoly on the feature in either event, then it is less likely to try to prevent the feature from being incorporated in the consumer electronics product.[67]

In this vein, the Commission should take pains to monitor developments oriented toward increased complexity and expense for converter boxes.[68] One press account reports that three leaders of their respective industries, General Instruments, Intel, and Microsoft, are planning a "computerized set-top device that will contain a version of Microsoft's popular Windows software and be powered by Intel's 386-series personal computer chip."[69] The device is

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67/ There are indications that cable companies intend to curtail consumer access to information carried in the vertical blanking interval of retransmitted broadcast and other programs. See "TCI Gives Vertical Blanking Equipment Order to ESP," Multichannel News, at 33 (Oct. 26, 1992)("TCI's position is that it will not transmit any VBI-based data services in which it doesn't have a business interest"). Whatever the merits of such an approach, it cannot justify monopolizing the provision of the equipment used on the cable subscriber's premises.

68/ Even if there were legitimate argument to exclude descramblers from the "commercial availability" provision, that would create no justification for the inclusion of additional functions in a device which will not be made competitively available. The Commission has specifically recognized that, where a specific function must be provided as an exception to CPE rules, other functions cannot be added. International Business Machines Corp., FCC 85-292 (released June 11, 1985); Third Computer Inquiry, 3 FCC Rcd. 1164, 1167 (1988)(subsequent history omitted).

69/ "Battles Loom for Control of TV's Portal to Cable," New York Times, at 43 (Apr. 3, 1993).

expected to be "priced between $250 and $300."[70] Intel and Microsoft have unrivalled reputations for their ability to compete in intensely competitive markets. But, if the cable industry's interpretation of Section 17 were to prevail, they would no longer need to compete to secure a place in consumers' homes; the local cable company would decide what functionality to place in the set-top box, and the consumer will have no other choice.

The Commission has already taken the first major step in the direction of competitive supply by requiring that the rates for converters and remotes (as well as connections for additional television sets) be "unbundled" from the price charged for cable services.[71] But unbundling merely permits the consumer to know the price for the box, as distinct from the price for the service. The consumer is not empowered to act on the knowledge provided by unbundling of equipment prices unless the Commission also ensures that the unbundled products are available from alternative

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70/ Id.; see also "Malone Calls Cable Engine of Multimedia," Broadcasting & Cable, at 14 (Apr. 5, 1993)(TCI Chairman reveals plans to "put converter boxes containing high-powered computer operating systems and costing $300-350 each into the 14 million homes it serves").

71/ See "Cable Systems to Reduce Rates to 'Competitive' Levels, MM Docket No. 92-266," FCC News, Report No. DC-2381, attached summary at ¶ 39 ("Operators must completely unbundle charges for all equipment, additional outlets and installations"). The full text of the rate regulation order was not available at the time these reply comments were prepared.

sources of supply. This is why the statute requires commercial availability of converters.[72] This important element of the legislation should not be thwarted by semantic legerdemain.[73]

B. Remote Controls

Relatively little needs to be said about the regulations necessary to meet the statutory requirement to promote the commercial availability of remote controls. We readily acknowledge that there is already a robust market for a wide variety of remote controls, including many that will successfully operate the converter boxes currently provided by cable companies. Nonetheless, there is some evidence of market distortions that can be cured by Commission action.

72/ Not surprisingly, when acting as a purchaser of equipment (as opposed to a supplier), the cable industry prefers a multiple-supplier environment. See "TCI's Malone on the Digital TV Age," Satellite Business News, at 1, 24 (Jan. 13, 1993)(TCI's Malone states, "Certainly [for] set-top boxes, we would like three, four, five suppliers"). Congress has now decided that the consumer, and not just the cable industry, should be able to select from multiple suppliers.

73/ Nor should the Commission permit cable operators to hinder competitive supply through discriminatory technical standards, as one party proposes. See Comments of Time Warner at 74-75 (all competitively supplied converters should be required to comply with all criteria for use of the term "cable-ready," but converters supplied by cable operators should not have to comply with the same requirements). This, like so many of the other arguments made by the cable industry in this proceeding, is precisely the same kind of argument which the Commission long ago rejected in the context of telephone CPE.

Certain converters, for example, can be disabled from the cable headend to prevent consumers from using their own remotes.[74] This is plainly illegal under Section 17, and cable operators must be expressly forbidden to engage in this kind of conduct. Such actions have "no purpose but to encourage the sale or rental of operator-provided remote control devices."[75]

Some of the cable companies try to shirk the statutory requirement that they "specify the types of remote control units that are compatible with the converter box

are added to converters. In this regard, we support BellSouth's call for cable companies to have disclosure obligations like telephone companies, so that the information necessary to design interoperable products is available.[77] Disclosure of information and the production of new remote controls, however, does nothing to help with the obsolescence of existing remotes caused when new features are added to cable boxes. Some restraint in the use of new codes -- and preferably a standards process to govern the use of new codes -- would go a long way to protecting consumer interests in this area.

VII. THERE SHOULD BE NO DELAY IN IMPLEMENTING ANY OF THE REQUIREMENTS OF SECTION 17.

There is a strong argument to be made for the Commission to act the fastest on those matters which the legislation addresses most specifically. In particular, we believe the Commission can move most swiftly to prescribe regulations specifying the information cable companies must provide to consumers and promoting the commercial availability of remotes and converters. Yet we do not wish to suggest that there should be any delay in the Commission's exploration of "in-the-clear" delivery techniques or in beginning work on digital standardization.

77/ See 47 C.F.R. §§ 64.702(a), 68.110 (1992).

We oppose NCTA's proposal that labeling requirements be imposed on all TVs and VCRs beginning in "three to six months."[78] We acknowledge that some "cable-ready" criteria could be developed relatively soon,[79] but, depending on what the criteria are, the time needed for implementation may be months or years. Since building products which meet the requirements to be called "cable-ready" must be left to the manufacturer's option, we would anticipate that such products are more likely to be built if the criteria associated with the use of the term were the result of joint industry agreement. If the Commission chooses instead to use the onerous criteria advocated by the cable industry, the regulations could be placed in effect [redacted]

VIII. CONCLUSION

This proceeding focuses on Section 17 of the Cable Act. The intentions and the specific requirements of this provision are fully consistent with the "consumer protection" and "competition" goals which are so central to the Act's purpose that they are reflected in its title. The consumer electronics industry, which supported enactment of

VIII. CONCLUSION

This proceeding focuses on Section 17 of the Cable Act. The intentions and the specific requirements of this provision are fully consistent with the "consumer protection" and "competition" goals which are so central to the Act's purpose that they are reflected in its title. The consumer electronics industry, which supported enactment of this provision and of this statute, is eager to work cooperatively with the Commission to ensure that compatibility requirements are framed in a manner that fulfills the goals of protecting consumers and promoting competition. Consumers deserve no less.

Respectfully submitted,

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